

FIG. 4A

FIGURE 4B

Cleavage site

CGATAACAGT---5'-flap

(Lig probe-AGACATTCTCGTCTAGGGACCTGTCCG CTCCTTATGTCCATAAACA(lig.Probe)

5'-CTAATCTGTAAGAGCAGATCCCTGGACAGGC-GAAGAATACAGGTATTTTGTCC(target seq)

Cleavage

Ligation site

AGACATTCTCGTCTAGGGACCTGTCCG CTCCTTATGTCCATAAACAGG

5' -CTAATCTGTAAGAGCAGATCCCTGGACAGGC-GAAGAATACAGGTATTTTGTCC

Ligation

AGACATTCTCGTCTAGGGACCTGTCCG-CTCCTTATGTCCATAAAACAGG

5' -CTAATCTGTAAGAGCAGATCCCTGGACAGGC-GAAGAATACAGGTATTTTGTCC

FIGURE 4C

Cleavage site

Incorrect hybridization:

TGATAACAGT---5'-flap

(Lig probe-AGACATTCTCGTCTAGGGACCTGTCCG TTCCTTATGTCCATAAAACA(lig.Probe)

5'-craatcrgraagagcagarcccrggacaggc-gaagaaracaggratrrrgrc(target seq)

Weak cleavage

Ligation site

AGACATTCTCGTCTAGGGACCTGTCCG TTCCTTATGTCCATAAAACAGG-5'

5'-CTAATCTGTAAGAGCAGATCCCTGGACAGGC-GAAGAATACAGGTATTTTGTCC

Ligation fails

AGACATTCTCGTCTAGGGACCTGTCCG TTCCTTATGTCCATAAACAGG

5'-CTAATCTGTAAGAGCAGATCCCTGGACAGGC-GAAGAATACAGGTATTTTGTCC

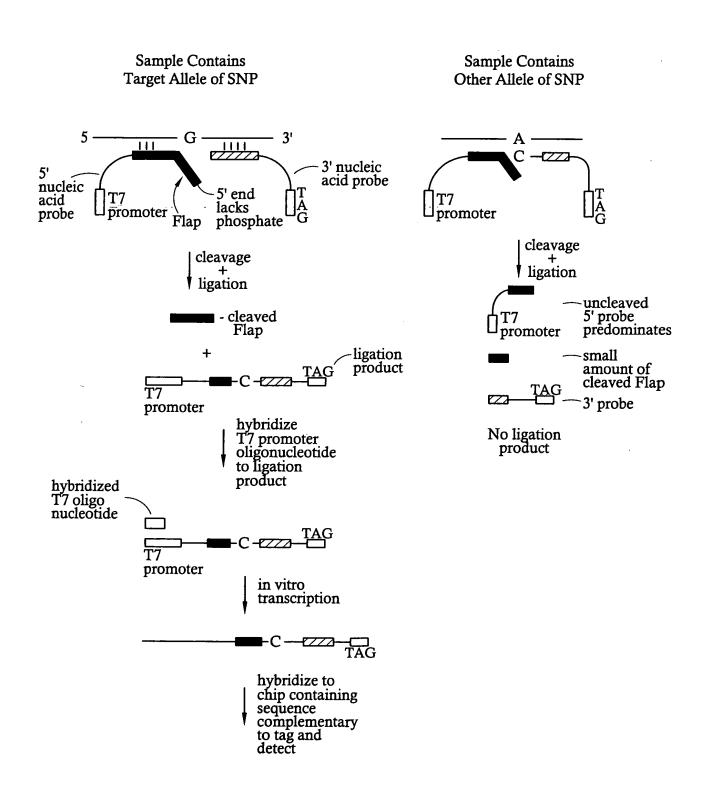
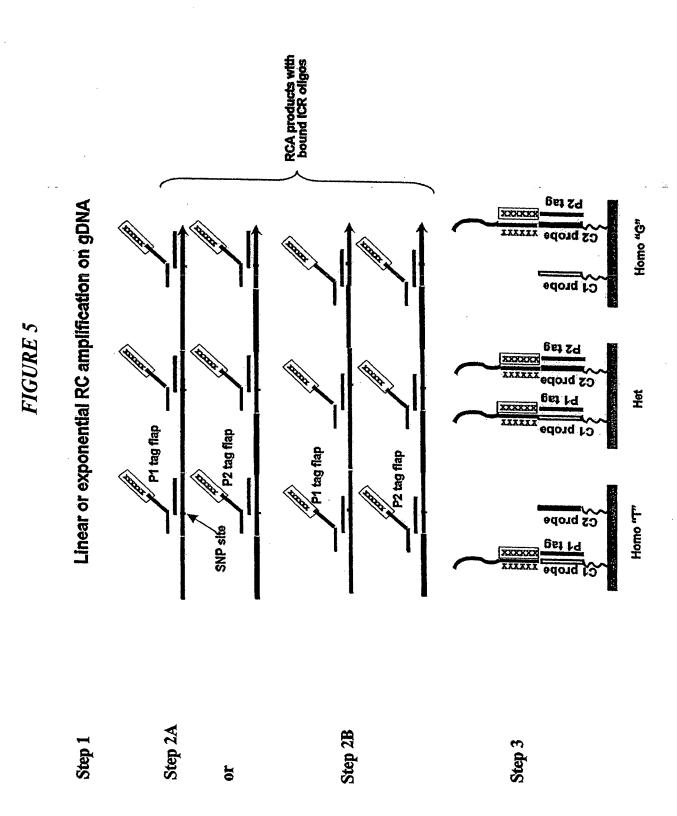
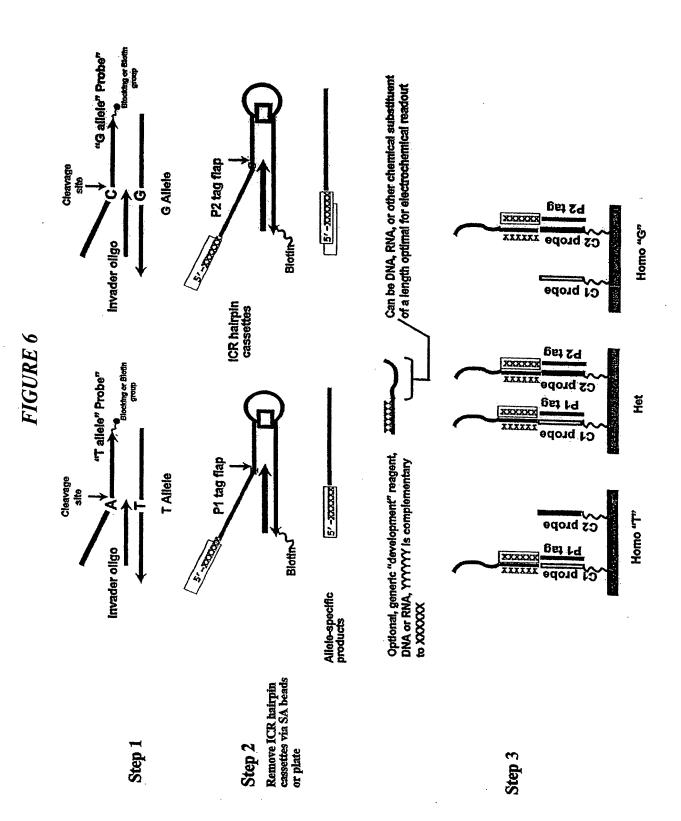


FIG. 4D





Can be DNA, RNA, or other chemical substituent of a length optimal for electrochemical readout Optional, generic "development" reagent, DNA or RNA, YYYYYY is complementary to XXXXXX

Step 3

